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(71) Applicants (for all designated States except US): HATTING-KS [DK/DK]; Oensvej 48, Hatting, DK-8700 Horsens (DK). DE DANSKE KVÆGAVLSFORENINGER [DK/DK]; Udkærsvæj 15, Skejby, DK-8200 Århus N (DK).			
(72) Inventors; and			
(75) Inventors/Applicants (for US only): CHRISTENSEN, Preben [DK/DK]; Dalgas Boulevard 89, 1.th., DK-2000 Frederiksberg (DK). STENVANG, Jens, Peter [DK/DK]; Bransbjergvej 119, DK-2600 Glostrup (DK).			
(74) Agent: PLOUGMANN, VINGTOFT & PARTNERS A/S; Sankt Annæ Plads 11, P.O. Box 3007, DK-1021 Copenhagen K (DK).			

(54) Title: DETERMINATION OF SPERM CONCENTRATION AND VIABILITY FOR ARTIFICIAL INSEMINATION

### (57) Abstract

A method for the simultaneous determination of the total concentration of sperm cells and the proportion of live sperm cells in a semen sample is provided. By selective staining of live, dead and/or dying sperm cells, for example using one or more fluorochromes, the detection means can distinguish between live, dead and/or dying sperm cells, for example by detection of the fluorescent response from the sperm cells. The selective staining may be performed at room temperature and in concentrations below standard concentrations. The determination may be performed by selective counting of cells of each fluorescent quality for example by using a flow cytometer having internal concentration standard means. Furthermore, the likelihood of fertilizing a female animal with an insemination dose, taken from a semen sample having a known total concentration of sperm cells and a known proportion of live sperm cells, is predicted on the basis of the thus determined total concentration of sperm cells and the proportion of live sperm cells.

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1/7

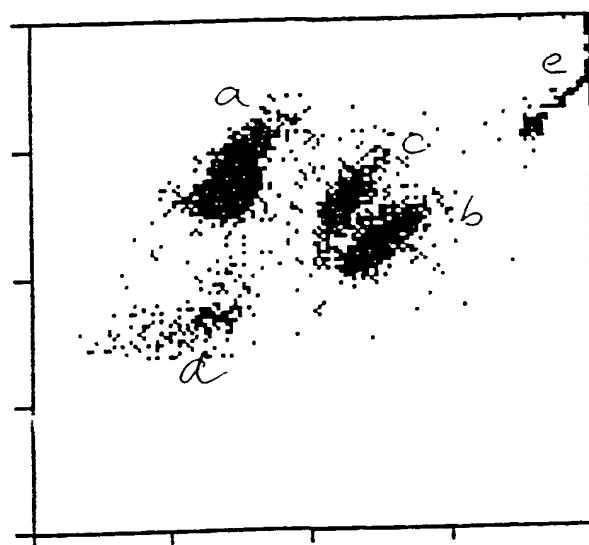
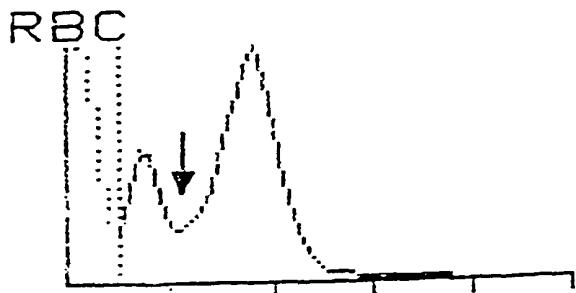
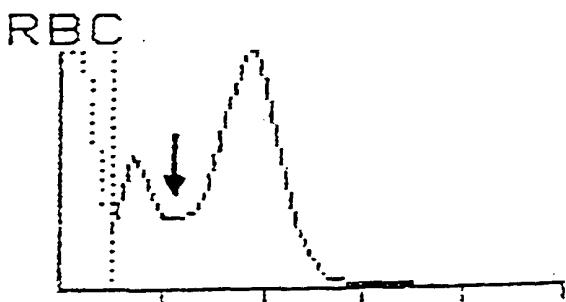


Fig. 1

2/7



**Fig. 2A**



**Fig. 2B**

3/7

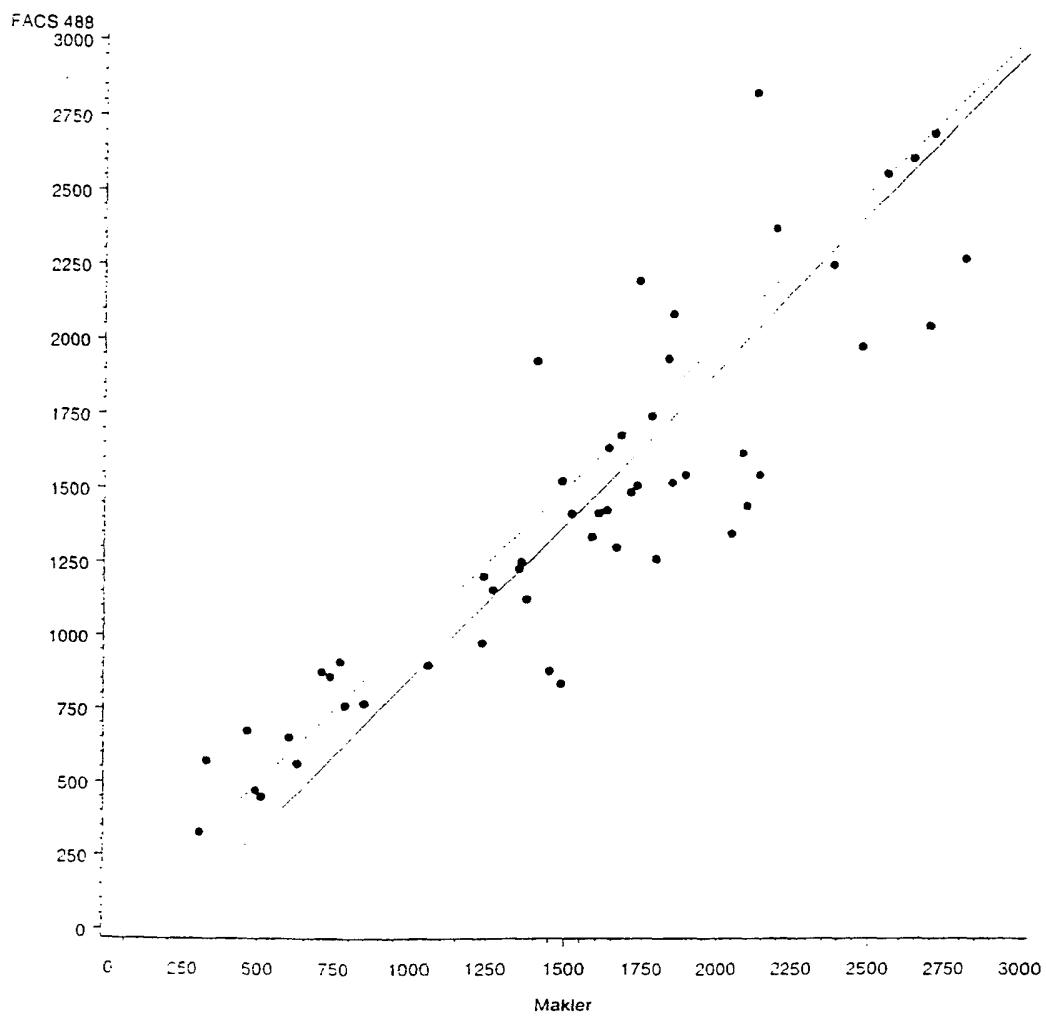


Fig. 3

4/7

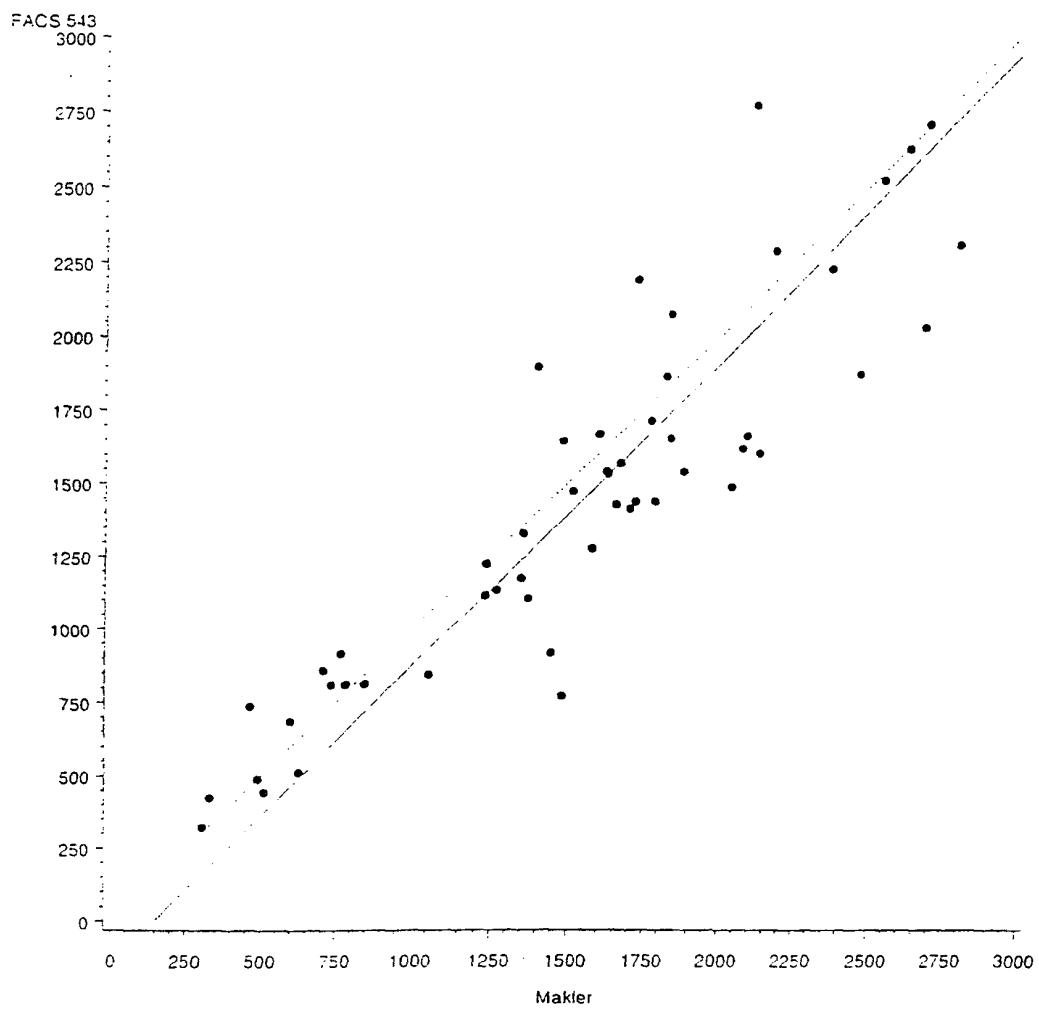


Fig. 4

5/7

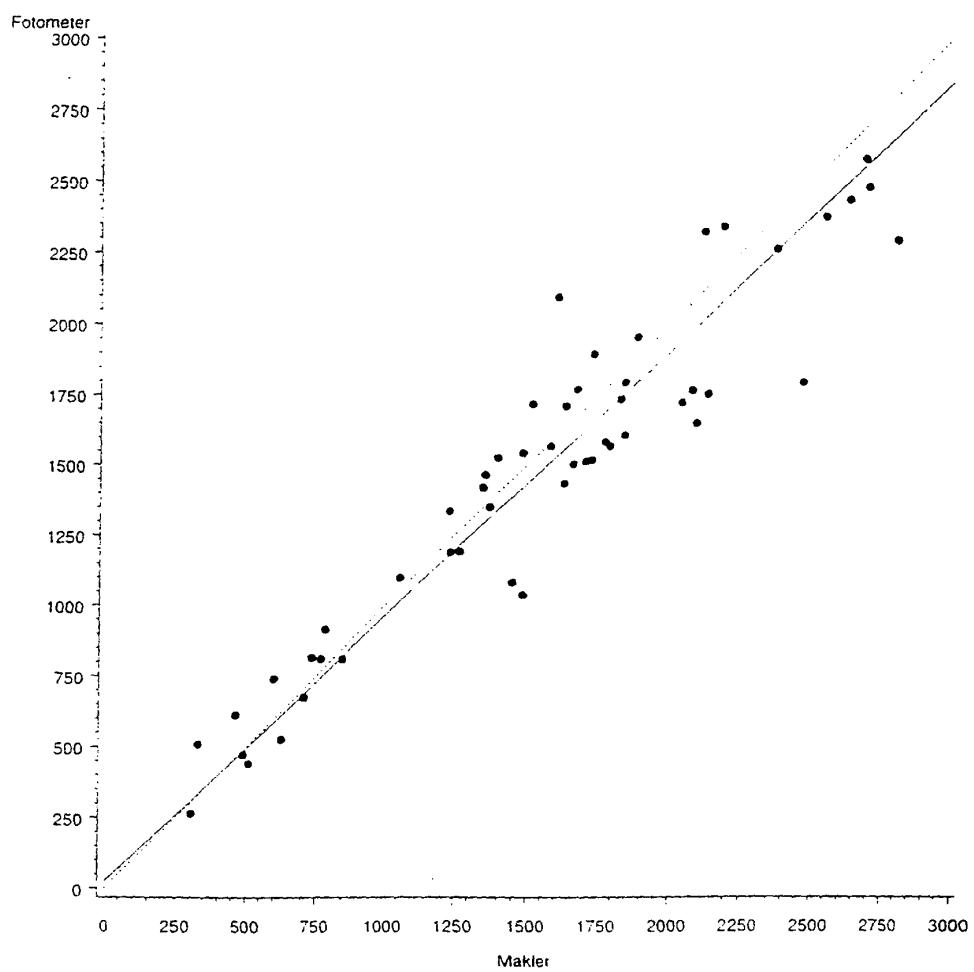


Fig. 5

6/7

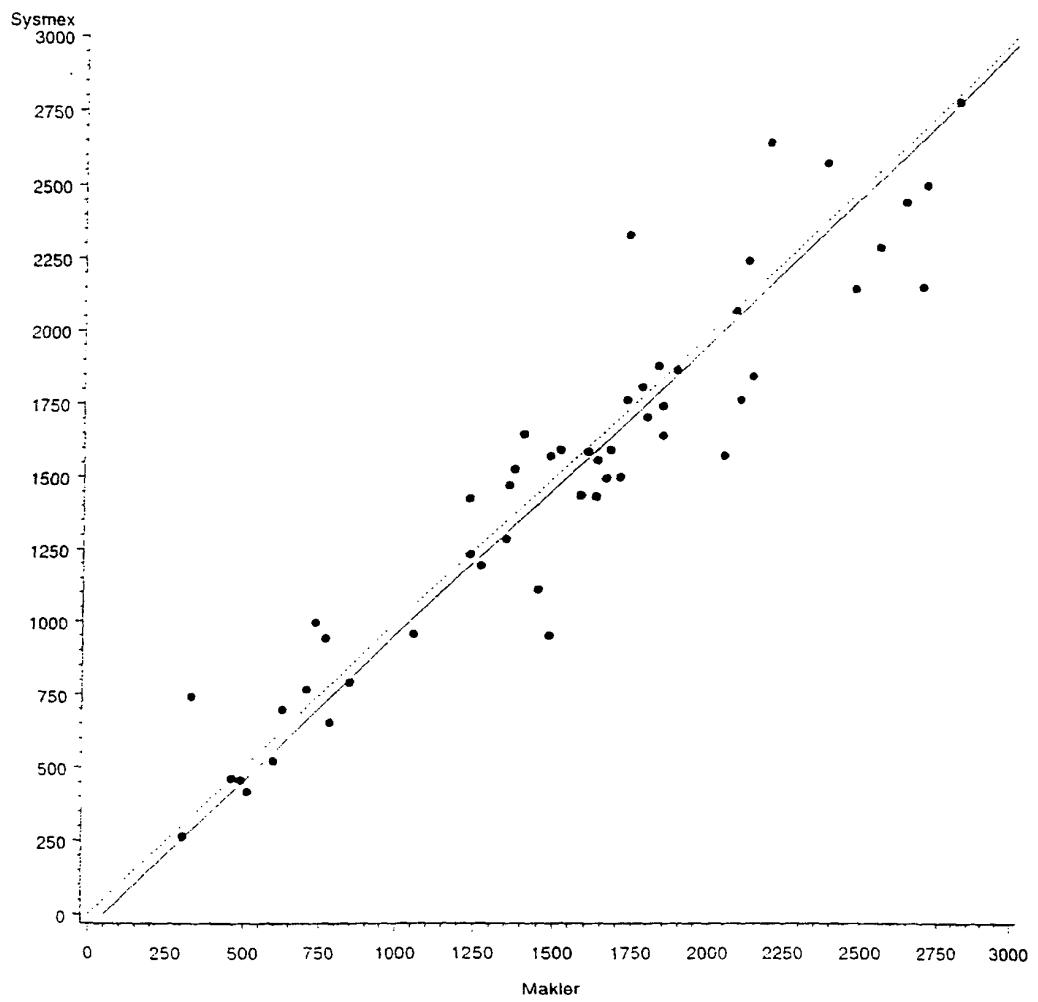


Fig. 6

7/7

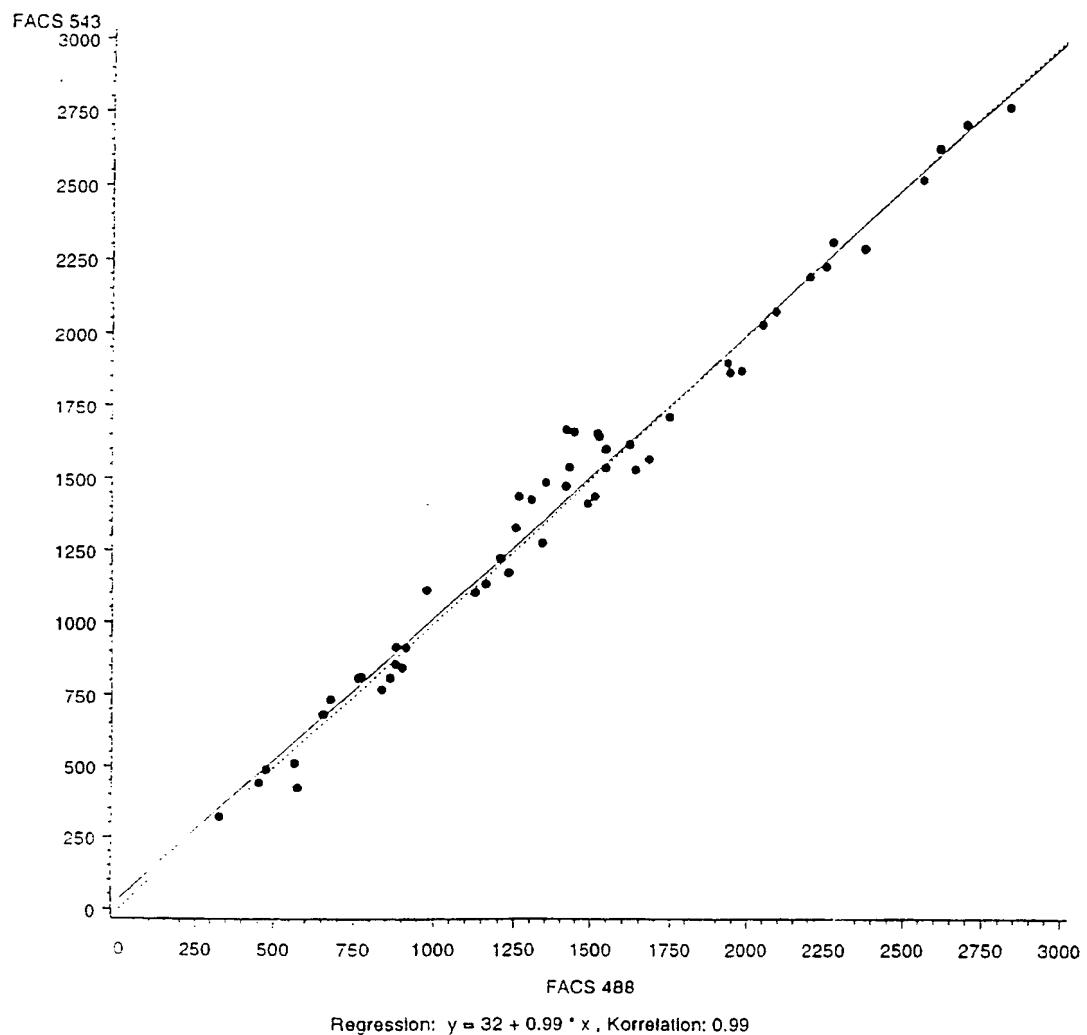


Fig. 7

# INTERNATIONAL SEARCH REPORT

International Application No

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**A. CLASSIFICATION OF SUBJECT MATTER**

IPC 7 G01N15/14

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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European Patent Office, P.B. 5818 Patentlaan 2  
 NL - 2280 HV Rijswijk  
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl.  
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Authorized officer

Thomas, R.M.

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